

Montana Driver Education and Training

Module 3.1

Effective Vision Control



Key Question

**How are driver decisions
and 90% related?**

Focus on Vision

1. Visual Skills

- What is vision?
- How do I use my vision when driving?
- How can I develop habits and attitudes to use my visual skills more effectively?

2. Vehicle Control

- What habits and attitudes will help me control my car smoothly, efficiently, and safely?

3. Risk Management

- How can I manage the risk associated with driving?
- What habits and attitudes will help me manage risk?
- How can I develop those habits that keep me safe?

Vision Activities

- Short Presentations
- Short Readings
- Problem-solving Activities
- Student-centered Activities

How do I See?

The Visual System has four steps

1. **Data Collection** - the **Eyes**
2. **Data Transmission** - the **Optic Nerve**
3. **Data Processing** - the **Visual Cortex**
4. **Perception** - the **Frontal Cortex**

Student Activity 1

- Select the first passage of text to read from the Vision Control Fact Sheet.
- Have your partner watch your eyes as you read the text.
- Observer: describe to your partner what you see.
- Now switch and repeat the activity.
- Class discussion: what did everyone else see?

Student Activity 2

- Working in pairs, have one person close his or her eyes.
- The teacher will present a slide on the screen while your eyes are closed.
- While your partner is watching your eyes, open them and look at the scene.
- Observer: describe what you see to your partner.
 - Repeat the activity



CONOCO

SEELEY LAKE
KALISPELL
GLACIER PARK

ST. KATHARINE
Regular 313⁹
Unleaded 389⁹
LOUNGE CASINO
24HR GAS ATM

MONTANA 200
MONTANA 83
↑ →





RPM
X1000

MPH

APPLY BRAKE TO SHIFT FROM PARK

HOLD TO
RESET

PRND
112880

FUEL

OIL

VOLTS

TEMP



Vision is a process





I will believe it when I see it

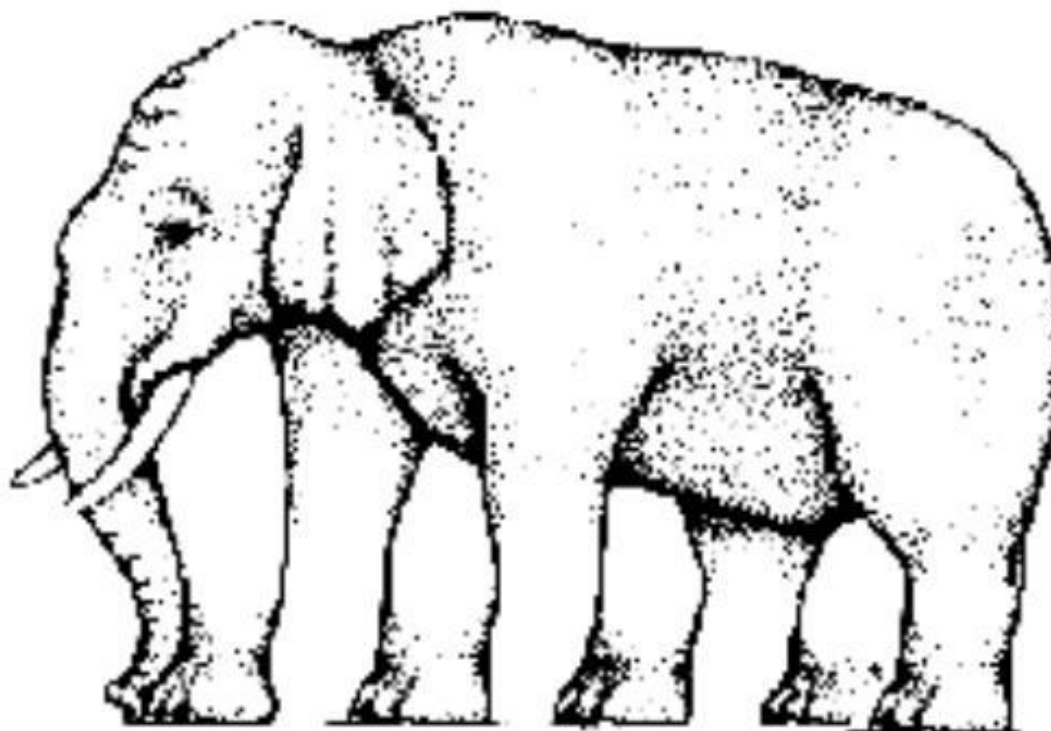
PERCEPTION

Perception Occurs in the Brain

Perception happens only after the brain processes what we see.

But We Can Fool our Brain

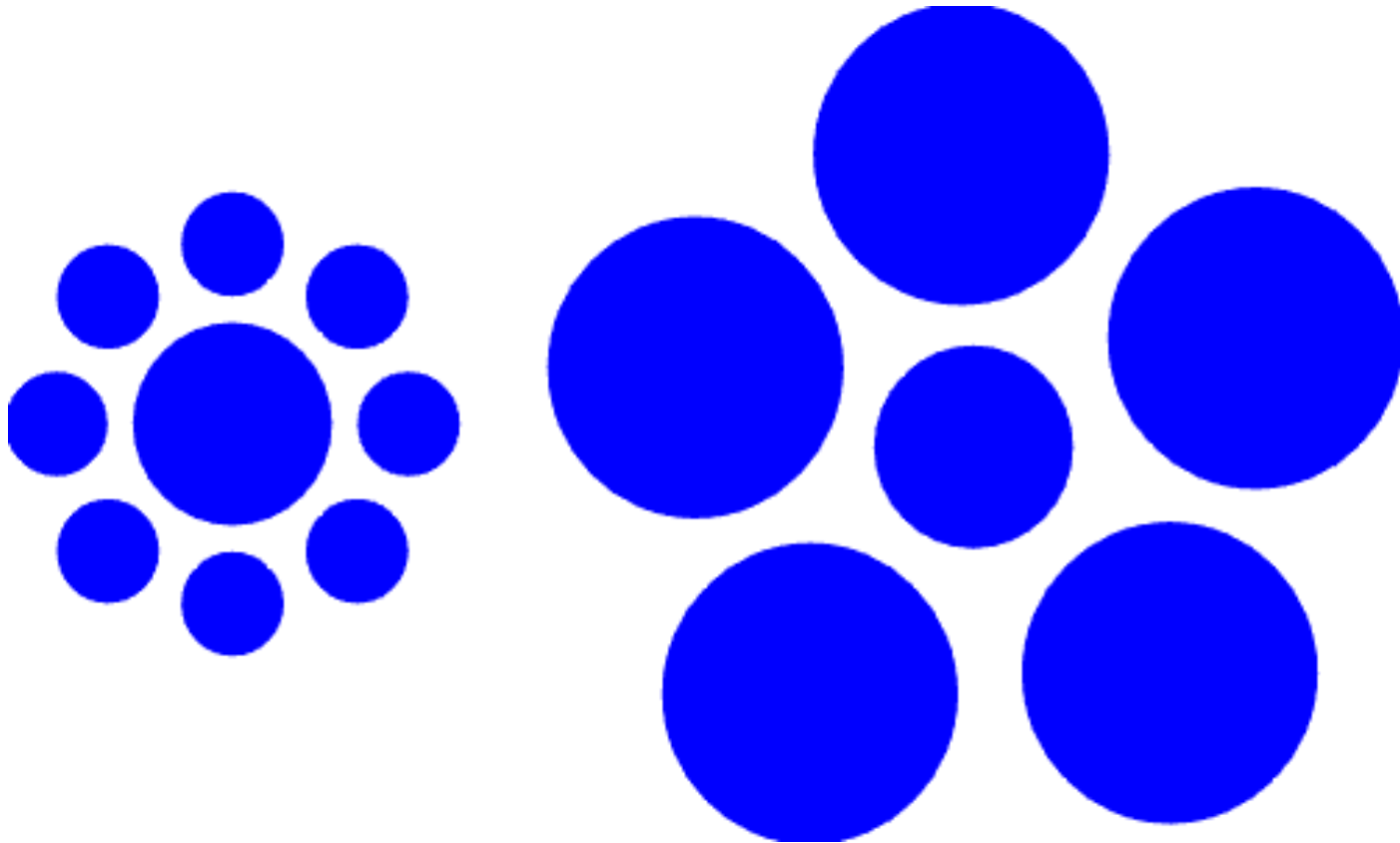
Our brain tells us what we see even though it might not really exist!



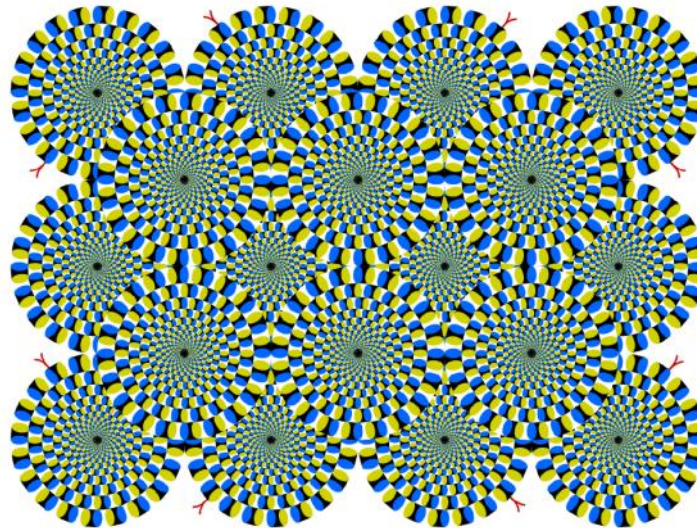
How many legs does this elephant have?

How objects and colors appear is highly dependent on their context. The structural and spatial variables of a scene can influence appearance and perception. The following optical illusion demonstrates how we are sometimes fooled by our eyes.

Instructions: The diagram below features two circles with different surroundings. Would you believe that the two circles are identical?



For More Optical Illusions
find **Bonus Optical Illusions**
in the Additional Resources folder

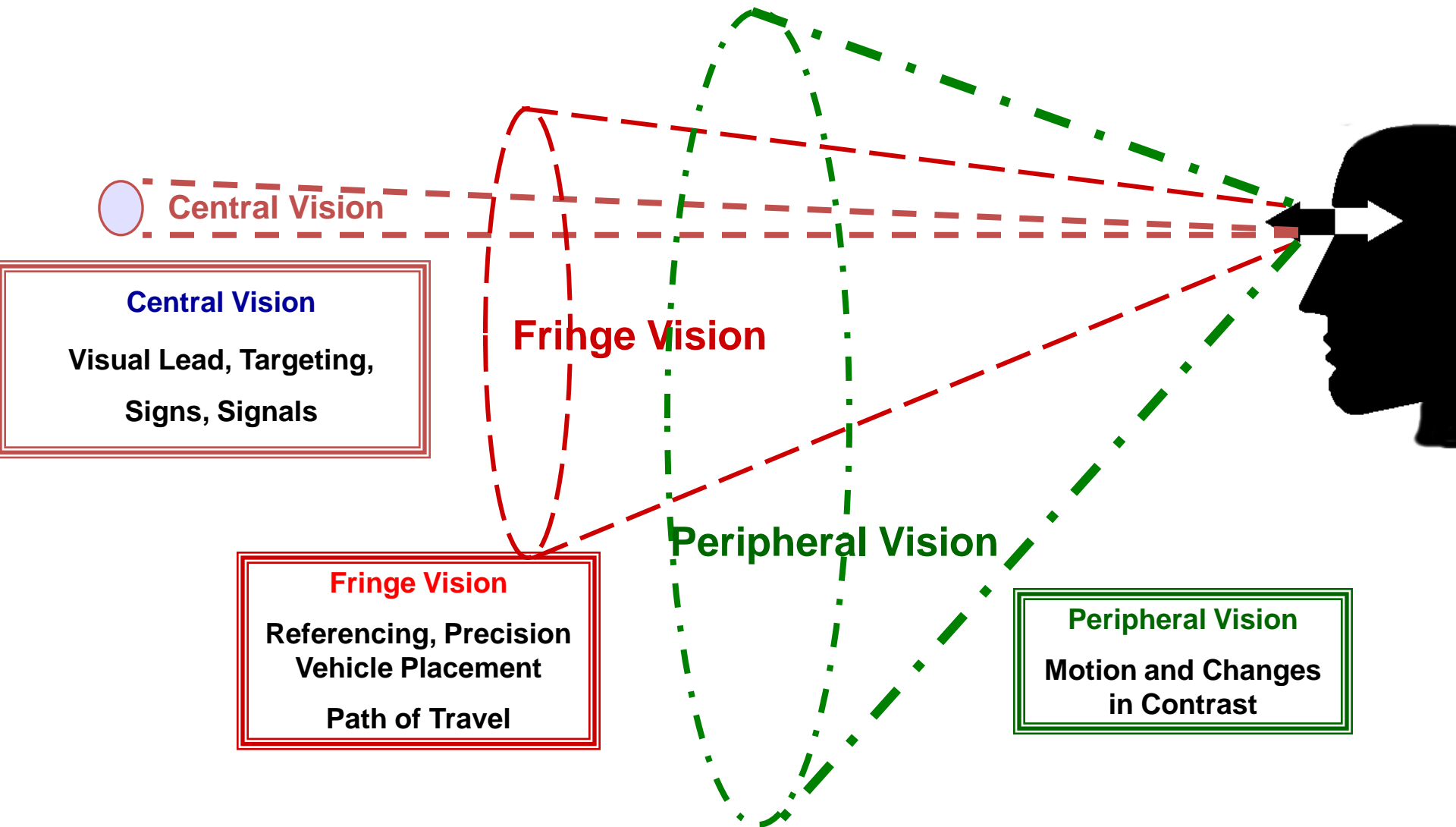


Using Your Eyes Effectively

Three Parts of Vision —
each with different roles

1. Central Vision
2. Fringe Vision
3. Peripheral Vision

The Three Parts of Vision



Student Activity 3

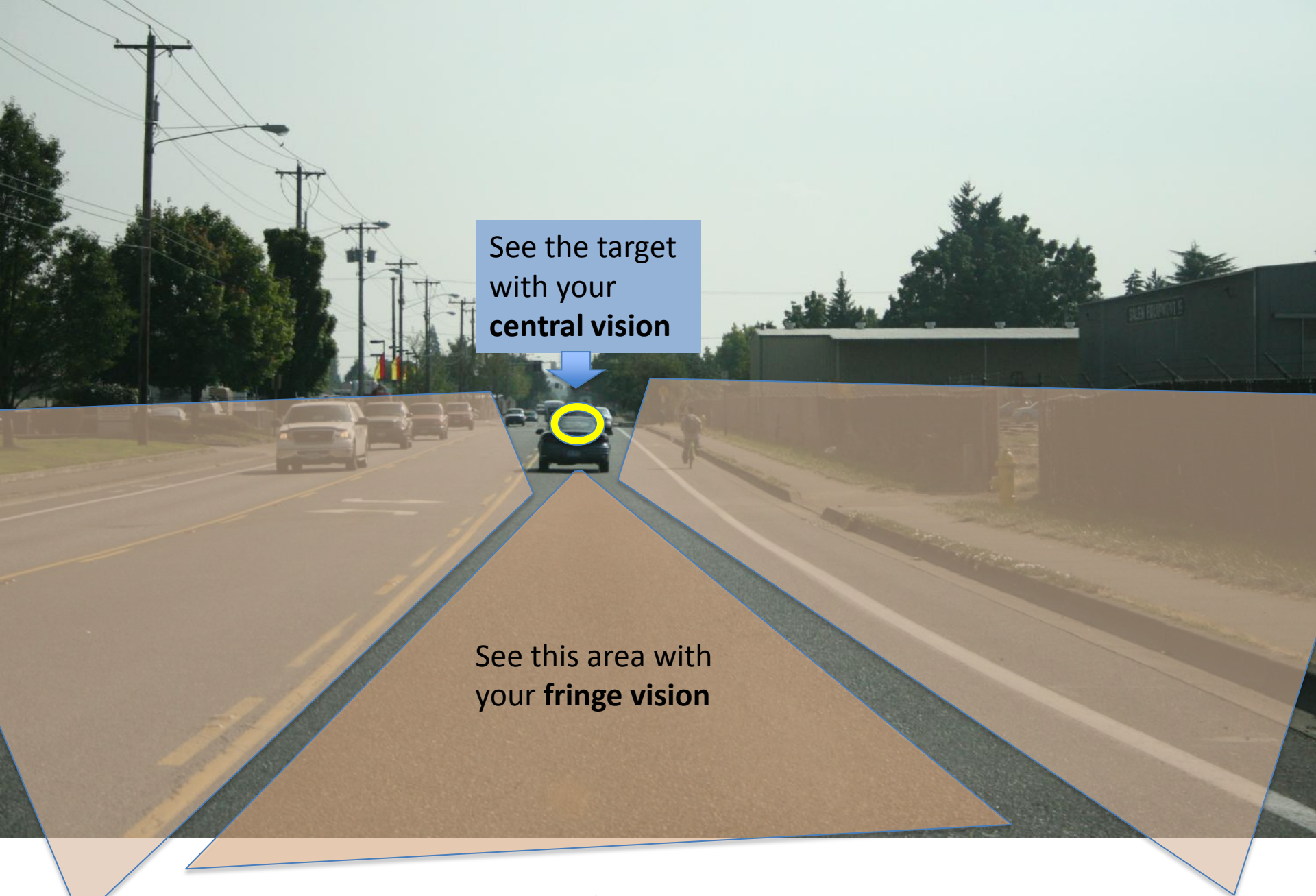
View Finder or Thumb Wrinkles Activity
for Central and Fringe Vision

Thumb Wrinkle Activity



Okee-Dokee Activity







Where did you look and
what did you see?

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Student Activity 4

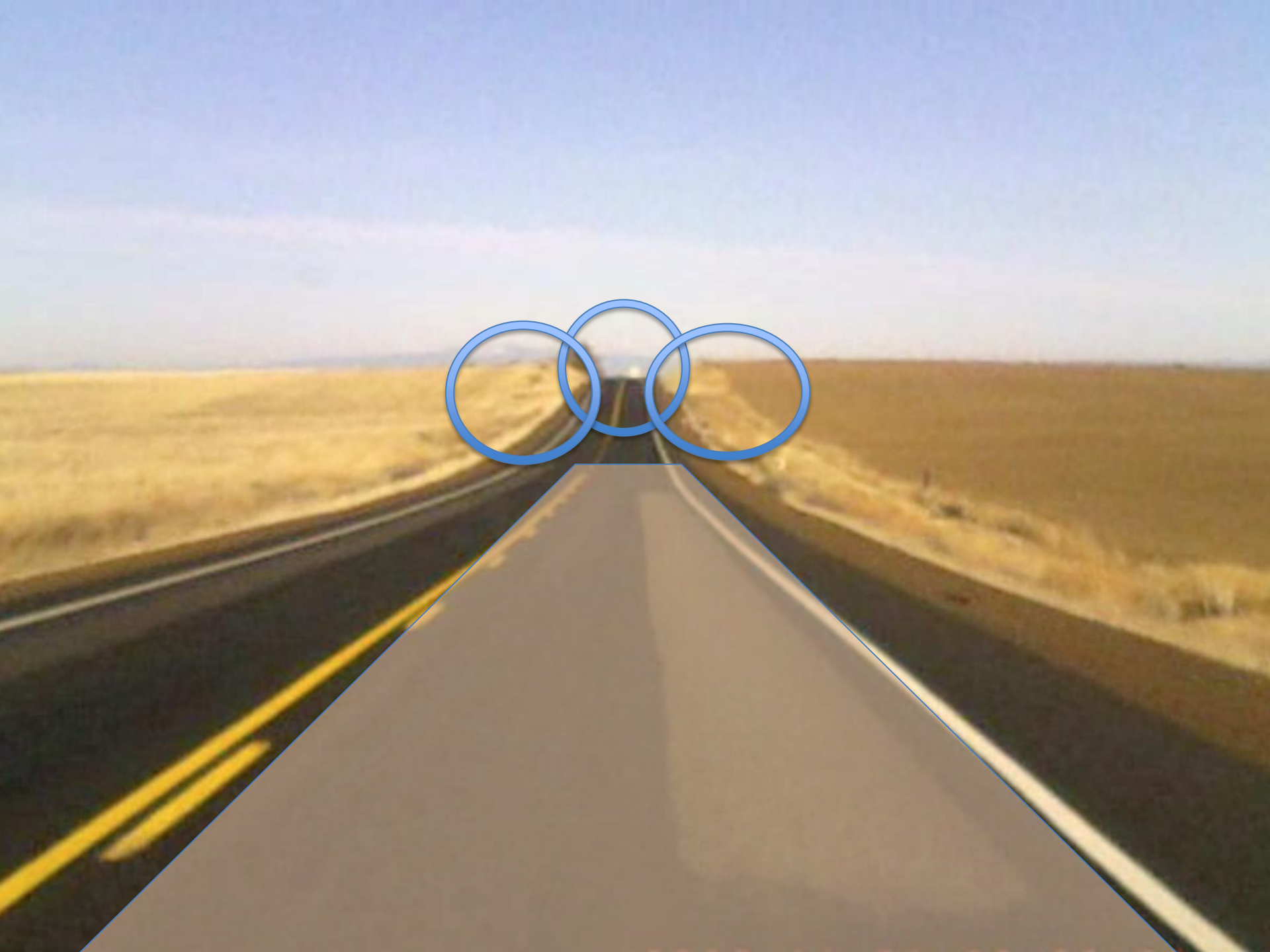
- Pick one student to stand in the front of the class.
- Using a flashlight, stand to the side of the student and turn it on and off.
- Determine the angle where the person can and cannot see the flashlight.

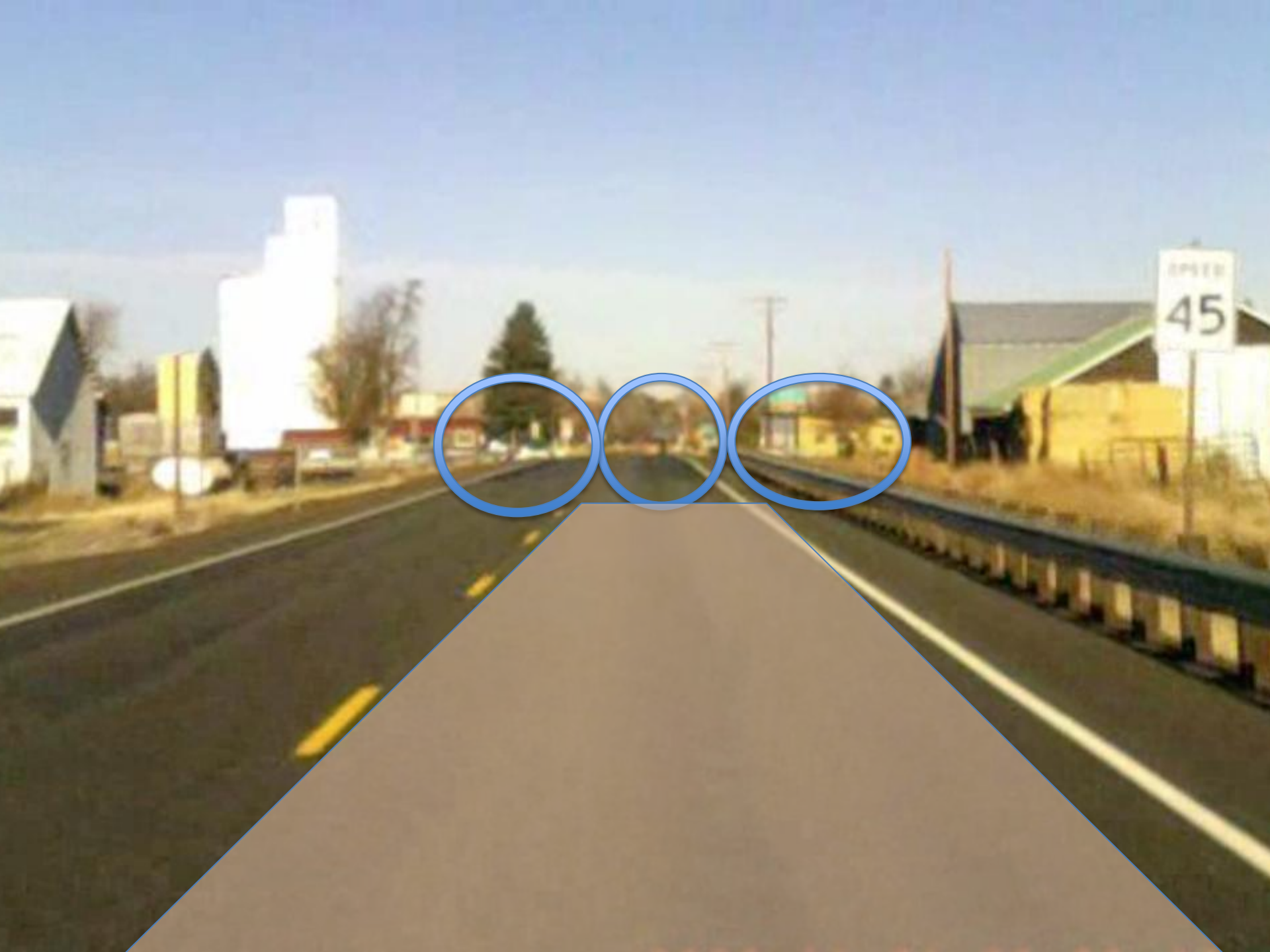
THE VEHICLE CONTROL SEQUENCE

Vehicle Control Sequence

- **Find**—Find it, see it, identify it, realize that you have to do something with it.
- **Solve**—Solve it by determining if you need to slow down, speed up, keep the same speed and whether you need to change lane position to create space.
- **Control**—Making sure that what you decided to do to create space still works as you near your LOS or POT blockage.

For more on Find-Solve-Control read the M-5 Fact sheet





Using the searching strategy you just learned, answer the following questions with your partner.

How is your 1. target area? 2. path of travel? 3. left front zone? 4. right front zone?



1. Hill, signal, and car, 2. Open, but may close as I get closer to the crosswalk, 3. Open, 4. Closed because of the van.

Now that you know what LOS and POT issues you will encounter, what will you do in the vehicle control sequence?

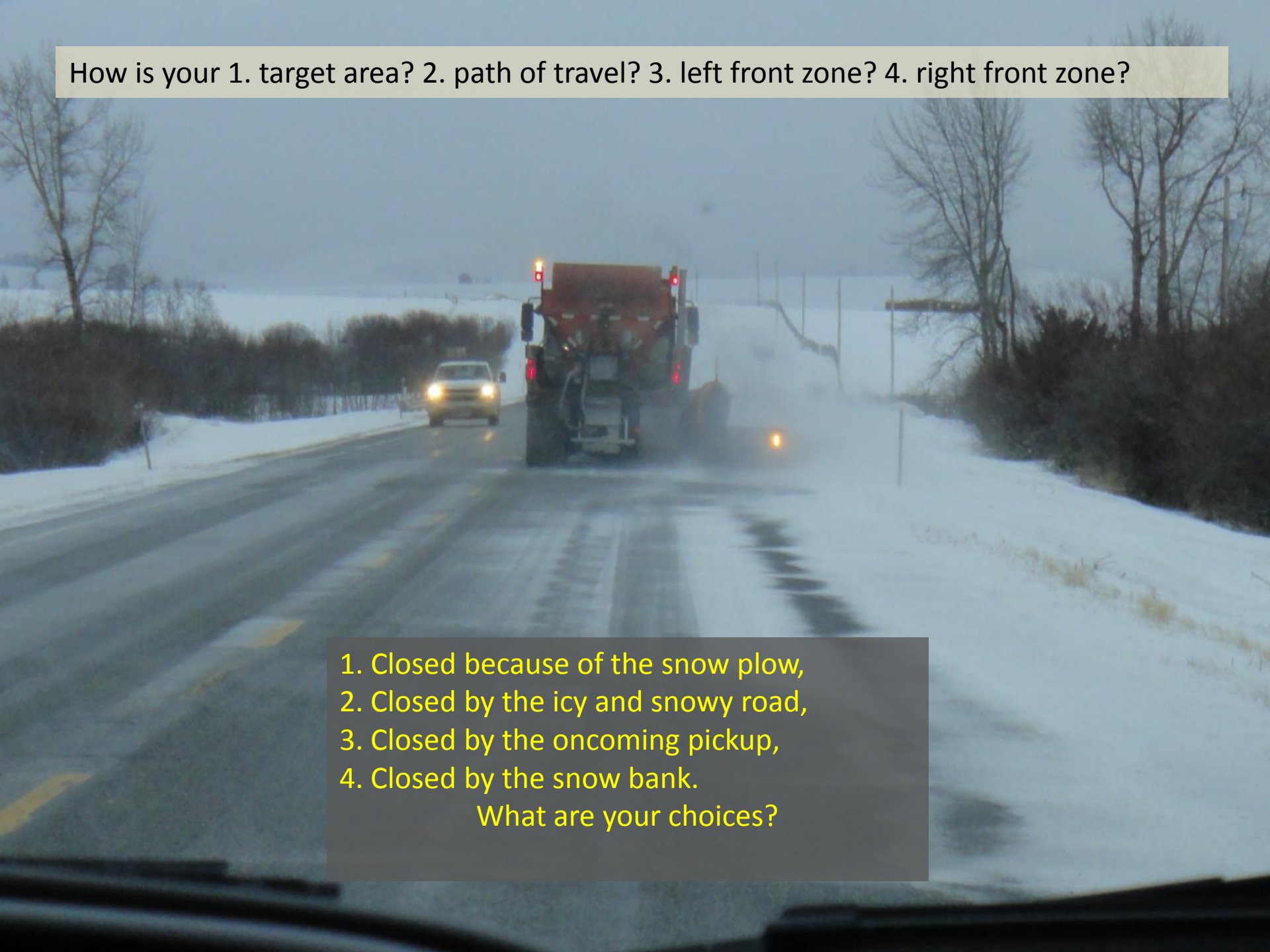


How is your 1. target area? 2. path of travel? 3. left front zone? 4. right front zone?



1. Closed because of the cars and upcoming signal, 2. Closed because of traffic and about to become more congested, 3. Open, 4. Closed.
- What are your choices?

How is your 1. target area? 2. path of travel? 3. left front zone? 4. right front zone?

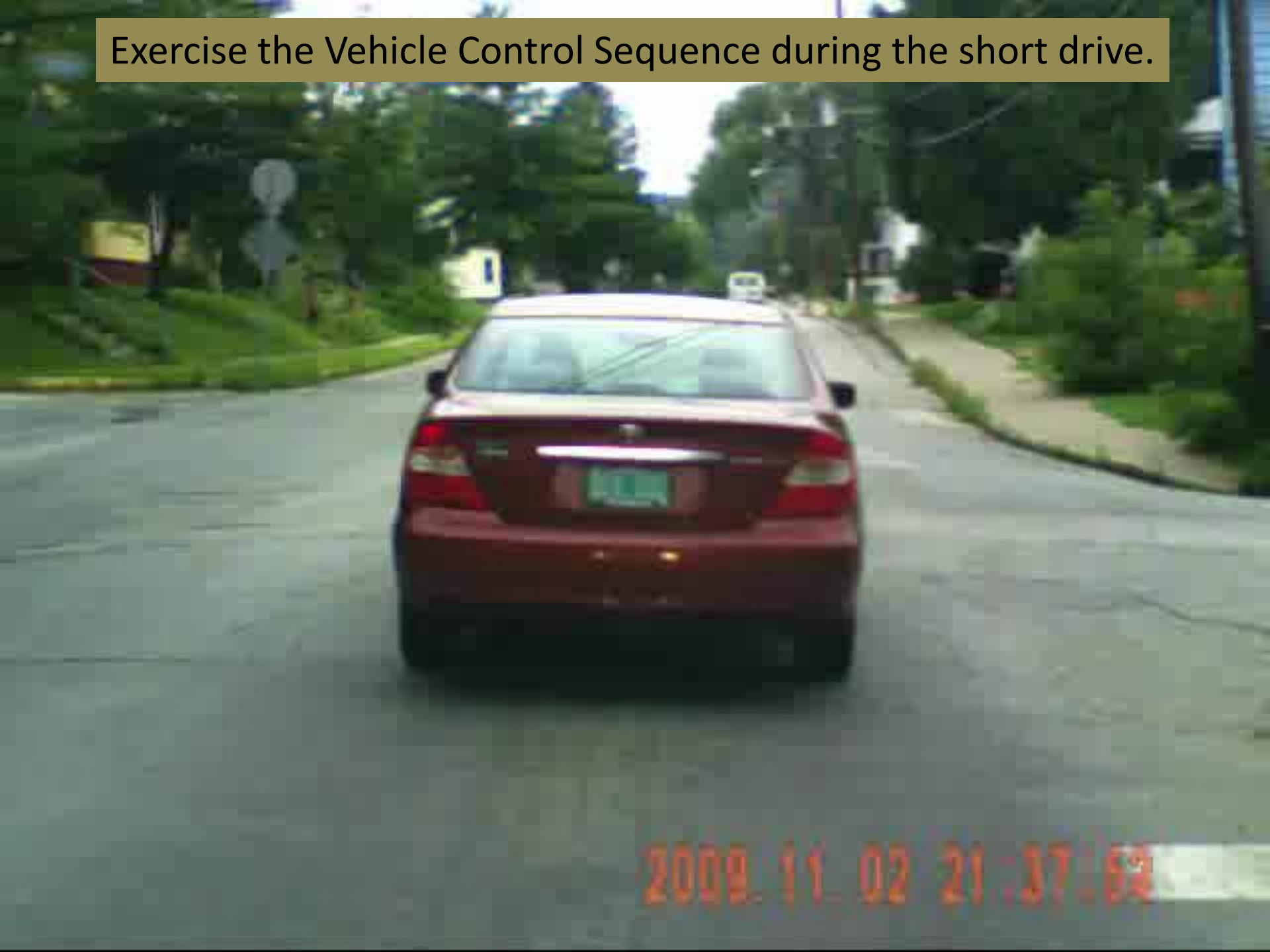
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- A photograph taken from a driver's perspective on a snowy road. A large snowplow is directly in front of the viewer, moving away. To the left, a white pickup truck is approaching. The road is covered in snow with visible tire tracks. The background shows a hazy, overcast sky and snow-covered trees and fields.
- 1. Closed because of the snow plow,
 - 2. Closed by the icy and snowy road,
 - 3. Closed by the oncoming pickup,
 - 4. Closed by the snow bank.

What are your choices?

Vehicle Control Sequence

Driving is not a static activity.
The vehicle control sequence
must be repeated during your
entire drive.


Exercise the Vehicle Control Sequence during the short drive.



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Did You See Him?

- Where were you looking?
- What were you looking for?
- Why did you miss the pedestrian?
- What do you need to do to **See**?

A red car is driving away from the camera on a paved residential street. The street is lined with green trees and bushes. On the left side of the road, there is a stop sign and a yellow sign. In the distance, a white car is visible. The scene is captured from a rear-view perspective.

**Watch the video again
and see if you can FIND
the pedestrian?**

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If 90% of our decisions are based on what we see it is important that we deal effectively with vision issues

DEALING WITH VISION ISSUES

Student Activity

- Work in groups of 2 or 3
- Look at the next set of pictures and discuss the following
 - What is the vision problem demonstrated here?
 - What do I need to do to solve the problem?

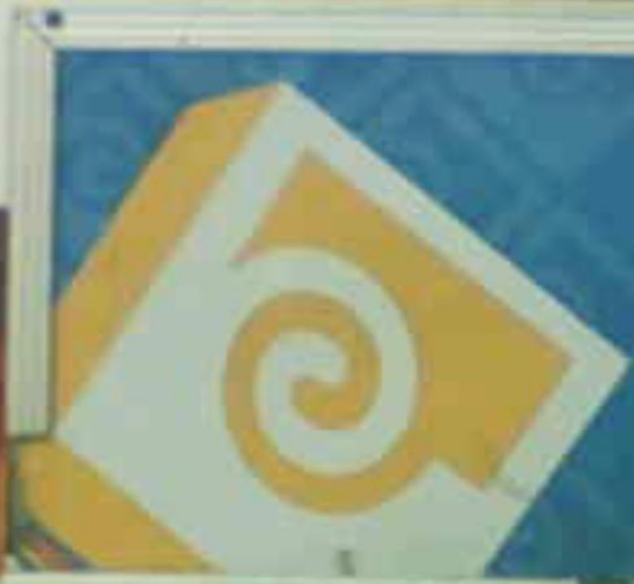
For more information, see the [Module 3.1 Vision Control Fact Sheet](#)







11 11:00



Non
PCC Diamond Alu

Deadline January 31
opportunity.pcc.edu

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Powered

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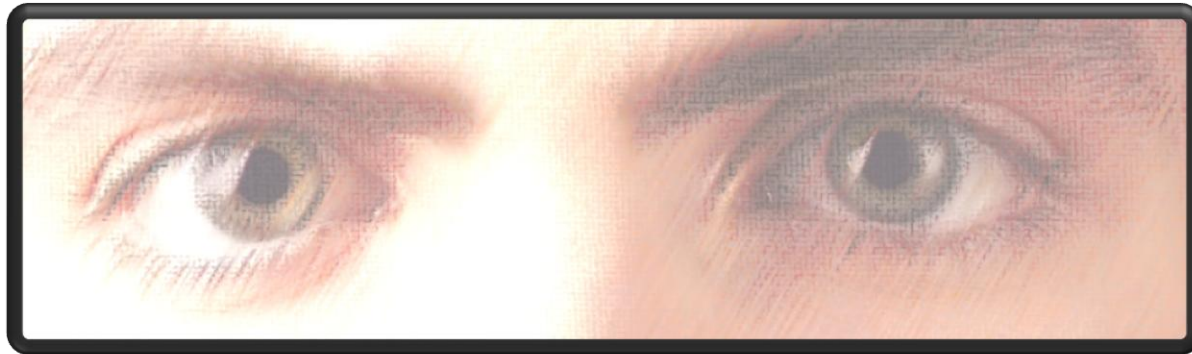






Our Speed Affects our Ability to See

The faster we go the less information we can see.




Why?

Our Speed Affects our Ability to See

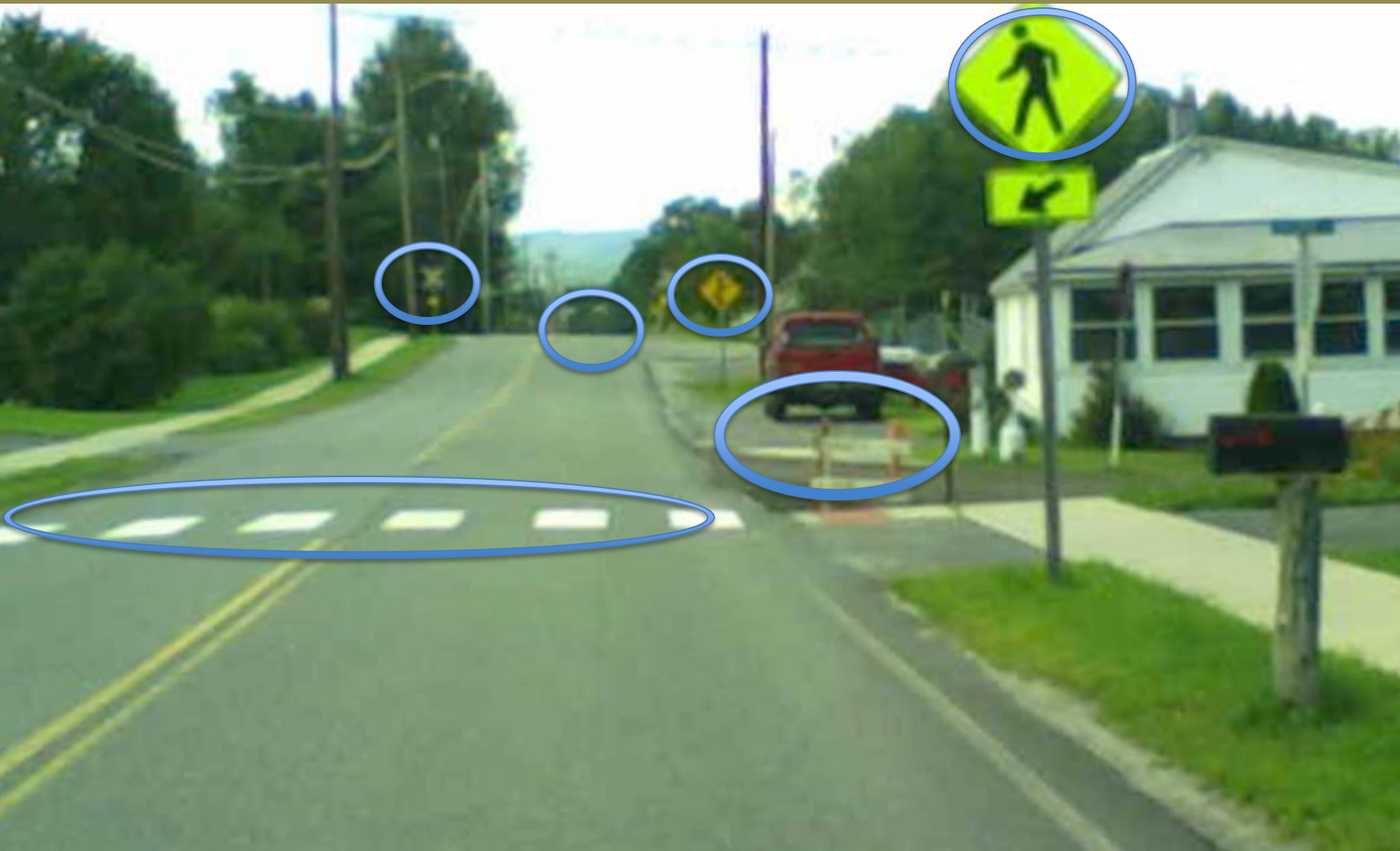


Remember the first activity you did? What were your eyes doing as you read the passage or scanned the picture?

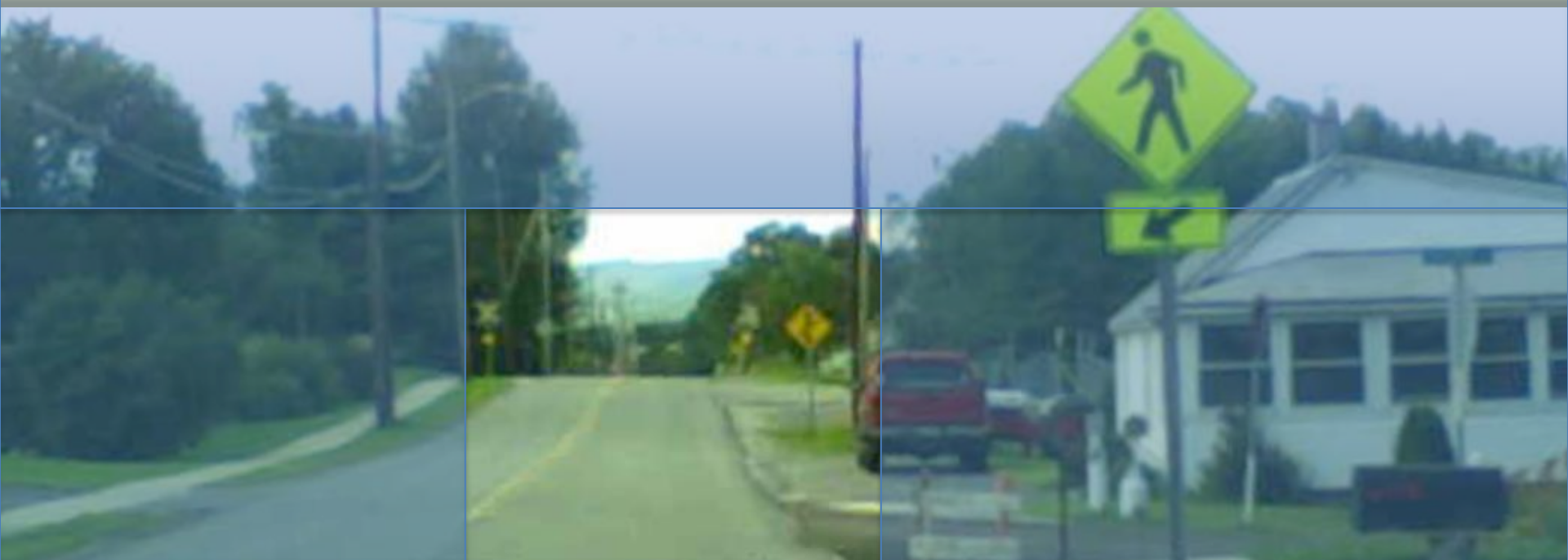
 WOULD YOU LIKE TO KNOW MORE?

Read Module 3.1 Vision Control Fact Sheet
section on **Speed and Vision**

Visual Field at 25 MPH



Visual Field at 60 MPH



- Your Visual Field Shrinks to the Size of the Clear Area
- Information about other users and LP is less
- Ability to detect hazards is reduced
- LOOK AT HOW MUCH YOU MISS!!!



**Vision is a process
that gets better with
practice and by
developing good
habits**

Strategies for

DEVELOPING GOOD DRIVING

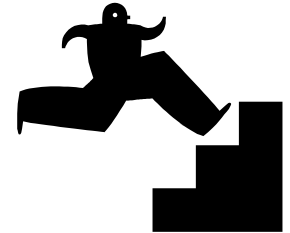
HABITS

and

EFFECTIVE VEHICLE

CONTROL

Six Steps to Positive Habit Development



1. Identify the behavior and desire to do it
2. Demonstrate ability to perform the behavior.
3. Overcome resistance of “this is the way I do it.”
4. Understand and identify when the behavior is performed correctly or incorrectly.
5. Practice the behavior correctly at least 28 times.
6. Perform the behavior correctly without thought.

Driver Judgment



Like athletes and musicians, drivers can learn what to do without hesitation on a good judgment level of awareness

- It takes a desire to be a good driver
- Precision driving does not rely on luck, fate, or maneuvering skills, it relies on ...

Four Levels of Performance

Level 1 — Unconsciously Competent:

I don't have to think about what I know and what I can do, but **I do it well**

Level 2 — Consciously Competent:

I am aware of what I know and what I can do and **what I need to do to continue to improve**

Level 3 — Consciously Incompetent:

I am aware of what I don't know and what I can't do and **I am willing to work on getting better!**

Level 4 — Unconsciously Incompetent:

I am unaware of what I don't know and what I can't do

Journal Writing Prompt

Learning and changing behavior can only happen in Levels 2 and 3!

Are you more aware of the need to develop good habits and are willing to improve your visual searching skills behind the wheel?

Write about what you need to know and practice to be a safe and skilled driver.

Montana Driver Education and Training

Standards and Benchmarks

1. Laws and Highway System

- 1.1. know the laws outlined in the Montana Driver's manual;
- 1.2. understand the laws outlined in the Montana Driver's Manual; and
- 1.3. consistently demonstrate knowledge and understanding by responsible adherence to highway transportation system traffic laws and control devices.

2. Responsibility

- 2.1. recognize the importance of making safe and responsible decisions for owning and operating a motor vehicle;
- 2.2. demonstrate the ability to make appropriate decisions while operating a motor vehicle;
- 2.3. consistently display respect for other users of the highway transportation system; and
- 2.4. develop positive habits and attitudes for responsible driving.

3. Visual Skills

- 3.1. know proper visual skills for operating a motor vehicle;
- 3.2. communicate and explain proper visual skills for operating a motor vehicle;
- 3.3. demonstrate the use of proper visual skills for operating a motor vehicle; and
- 3.4. develop habits and attitudes with regard to proper visual skills.

4. Vehicle Control

- 4.1. demonstrate smooth, safe and efficient operation of a motor vehicle; and
- 4.2. develop positive habits and attitudes relative to safe, efficient and smooth vehicle operation.

Montana Driver Education and Training

Standards and Benchmarks

5. Communication

- 5.1. consistently communicate driving intentions (i.e., use of lights, vehicle position, and personal signals);
- 5.2. adjust driver behavior based on observation of the highway transportation system and other roadway users;
- 5.3. adjust communication (i.e., use of lights, vehicle position, and personal signals) based on observation of the highway transportation system and other users; and
- 5.4. develop positive habits and attitudes for effective communication.

6. Risk Management

- 6.1. understand driver risk-management principles;
- 6.2. demonstrate driver risk-management strategies; and
- 6.3. develop positive habits and attitudes for effective driver risk-management.

7. Lifelong Learning

- 7.1. identify and use a range of learning strategies required to acquire or retain knowledge, positive driving habits, and driving skills for lifelong learning;
- 7.2. establish learning goals that are based on an understanding of one's own current and future learning needs; and
- 7.3. demonstrate knowledge and ability to make informed decisions required for positive driving habits, effective performance, and adaptation to change.

8. Driving Experience

- 8.1. acquire at least the minimum number of BTW hours over at least the minimum number of days, as required by law, with a Montana-approved driver education teacher; and
- 8.2. acquire additional behind-the-wheel driving experience with a parent or guardian's assistance in a variety of driving situations (i.e., night, adverse weather, gravel road, etc.).